Ocular Features In Various Ocular Trauma - A Clinical Study

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INTRODUCTION

- Ocular trauma is one of the major cause of unilateral ocular morbidity that has been reported .[1]
- Impact of trauma on human eye ranges from minute subconjunctival haemorrhage to lacerated globe.[2]
- It continues to pose a challenge because of its significant morbidity in terms of visual impairment and diminished quality of life.
- Due to the potential for visual morbidity and public health burden of ocular trauma, knowledge of the prevalence of ocular trauma in different populations is required.[3]

AIM

- To study incidence of road traffic accident ocular injuries and non road traffic ocular injuries in patients of various ages attending ASRAM hospital.
- Causative agent, time of reporting and ocular structures involved are taken into consideration.

- INCLUSION CRITERIA : Patients attending ASRAM Hospital with history of ocular trauma, ocular foreign body, exposure to toxic chemicals, metals.
- EXCLUSION CRITERIA: Patients with pre-existing corneal opacities, lid pathologies, any ocular morbidities.

MATERIALS & METHODS

- Study type: prospective observational study .
- All the patients attending ophthalmology and emergency departments with either history of road traffic accident or non road traffic accident ocular trauma from November 2020 to April 2021 were included in the study.
- A total of 206 cases were included in the study .
- All the demographic data , detailed history regarding the trauma, its nature & complications are recorded.

- Detailed examination including anterior segment and posterior segment was done for every patient .
- Radiological investigations like X-Ray orbit, CT Scan, MRI scan were done whenever indicated.
- The type of trauma causing the ocular injury was classified into road traffic accident and non road traffic accident injuries .
- All the cases were also classified according to the ocular structure involved in the trauma .


POCO
SHOT ON POCO F1


BEFORE


AFTER

STATISTICAL ANALYSIS

- The data was entered regularly in excel sheet .
- Nominal data was presented as numbers & percentage.
- Data analysis & percentage calculation was done using Microsoft Office Excel.

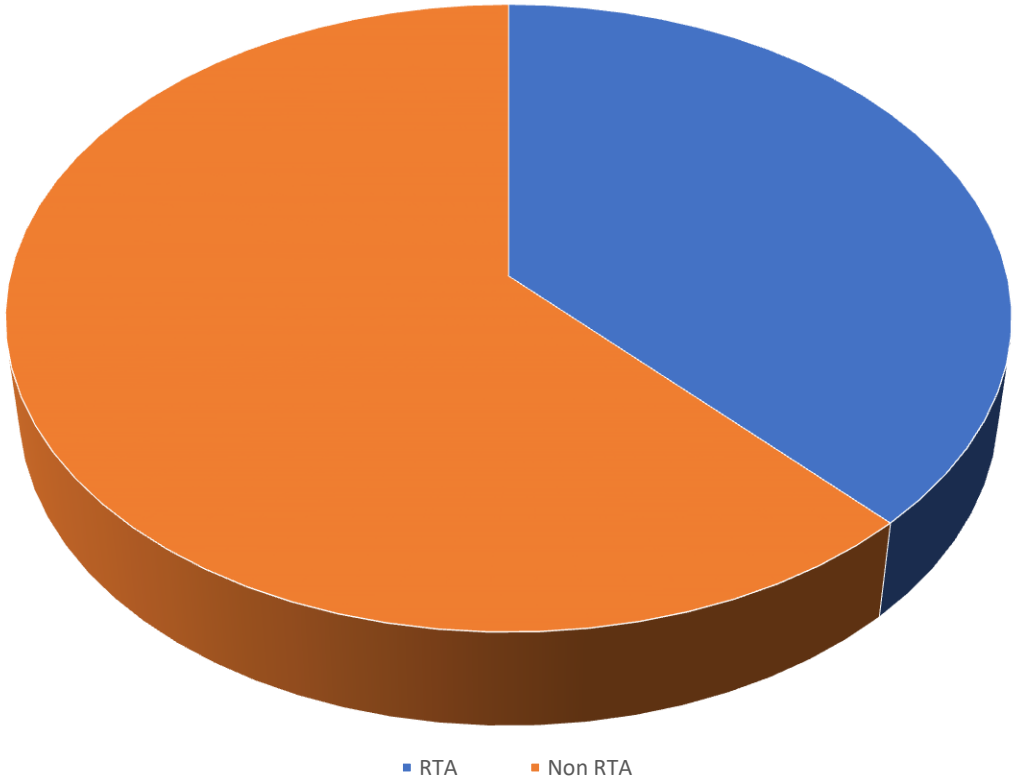
RESULTS

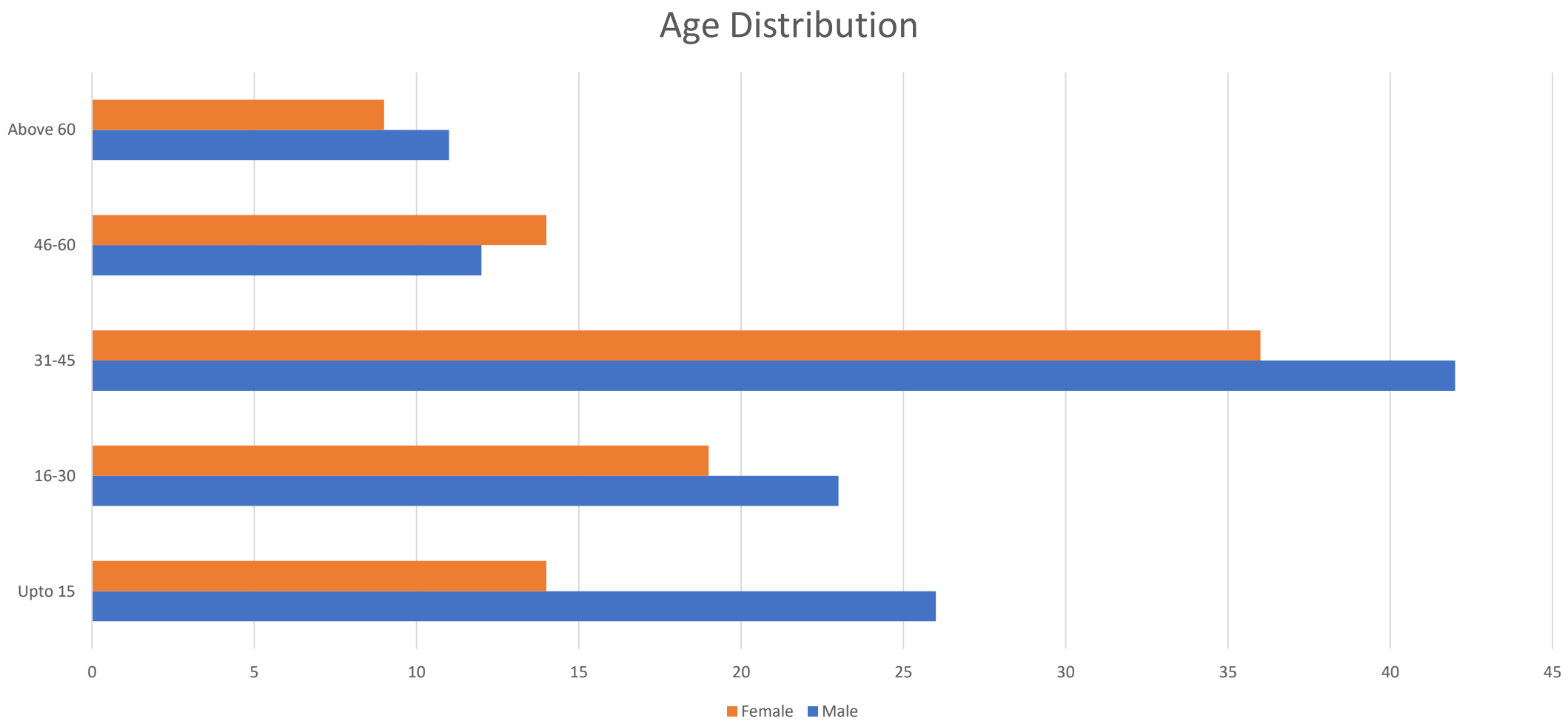
- A total of 206 cases were included in the study.
- Among them 55.338% were men and 44.60% were women.
- RTA injuries were 37.864% (n=78) and Non RTA injuries were 62.135% (n=128) .
- Most of the patients were between the age groups 31-45 years , 37.86% (n=**78)**
- Patients between age group 16 -30 years were about 20.388% (n=42)
- Incidence of ocular trauma is less in age groups above 60 years , 9.707% (n=20)
- Most of the cases presented with in 72 hours of trauma , 43.203 % i.e 89 cases , followed by 36.893% , i.e 76 patients attending within 24hrs of trauma.

- Most common ocular trauma was ocular (corneal &conjunctival) foreign body with 56 patients , i.e 27.184% , followed by lid laceration with 44 patients i.e 21.359 % .
- Chemical ocular injuries were reported as 8.737 % ,18 patients.
- About 6 Fire crackers blast injury cases were reported 2.912% .

	Total Number Of Cases	Percentage%
Road traffic accident ocular injuries	78	37.864%
Non road traffic accident ocular injuries	128	62.135%
	206	100%

Types of Trauma




Age Distribution
Above 60
46-60
31-45
16-30
Upto 15
0
5
10
15
20
25
30
35
40
45
Female
Male

Causative Agents	Number Of Cases	Percentage %
Lid laceration (RTA)	44	21.359%
Foreign body (cornea)	56	27.184%
Vegetative matter	23	11.165%
Corneal lacerations	3	1.456%
Blunt trauma	9	4.368%
Chemical	18	8.737%
Animal	26	12.621%
Fire cracker	6	2.912%
Others	21	10.194%
Total	206	100

OCULAR STRUCTURE INVOLVED	NUMBER OF CASES	PERCENTAGE %
CORNEA	118	57.281%
CONJUCTIVA	16	7.766%
LENS	3	1.456%
LID	38	18.446%
RETINA	2	0.970%
IRIS	6	2.912%
ANTERIOR CHAMBER	4	1.941%
VITREOUS	2	0.970%
SCLERA	1	0.485%
ORBIT	14	6.796%
OPTIC NERVE	2	0.970%

DISCUSSION

- Ocular trauma is one of the most common and preventable causes of visual morbidity.
- It is most common in rural population due to lack of awareness of ocular health and nonavailability of ophthalmology speciality services.
- In our study , incidence of ocular trauma is more in males 55.338% , between the age groups 31-45 years , with 37.86% , indicating that most of the working males are affected .

- In a study conducted by **Shailaja Karve etal** [2], 65.25% were found to be in the age group of 15 to 45 years ,total numbers of the patients in this age group, 69.21% were males ; affecting the working male population and economic burden .
- As most of population affected is rural working males , the most common mode of injuries are due to contact with vegetative matter leading to corneal ulcers , injuries due to spade , chisel causing corneal or scleral lacerations , contact with pesticides while spraying causing conjunctival congestion, corneal melting .

- In our study incidence of ocular trauma due to road traffic accidents is 37.864% . Various injuries due to road traffic accidents are lid lacerations , bony orbital fractures , traumatic hyphaema , scleral rupture. Lid lacerations are more common among them and scleral rupture is the rarest .
- In a study conducted by **Xi Zhang et al [4]**, road Traffic accidents were seen mostly in patients aged between 15 to 29 years .

- In our study one case of scleral rupture has been reported to the casuality , with no perception of light , which has been referred to higher centre for further management ,due to lack of facilities.
- Hence Ophthalmology super speciality services has to be developed in every multispeciality hospital to provide better services for good visual prognosis, especially in young patients.
- Traffic morale and wearing of protective gear at work has to be inculcated in every person to reduce the visual morbidity and economic burden in the society .

LIMITATIONS

- The main limitation of the study is lack of follow up of the long term outcome on visual acuity.

CONCLUSION

- Ocular trauma is an important and preventable cause of ocular morbidity in the society. Impact of trauma on human eye ranges from minute subconjunctival hemorrhage to lacerated globe.Most of the cases of trauma are closed globe mechanical injuries affecting young adults resulting in economical and social burden.
- Proper evaluation of severity of ocular trauma at the time of initial examination may help in planning for skillful management and help in prevention of severe visual morbidity.

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